

Amendments to the Claims

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of Claims:

1. (Currently Amended) A method for providing access within an eye during an ocular surgical procedure, comprising the steps of:

providing an entry alignment device that is configured so as to provide an entry aperture in each of the conjunctiva and sclera of the eye and maintaining the entry aperture in each of the conjunctiva and sclera aligned during the surgical procedure; and

~~wherein the entry alignment device being provided is sized such that when the entry alignment device is removed from the eye, the entry aperture formed in the conjunctiva and sclera are sealed without the use of sutures;~~

inserting the entry alignment device into the eye so as to form the entry apertures, where said inserting is accomplished without pulling back the conjunctiva;

~~providing a surgical instrument having an operable end for insertion through the entry aperture in each of the conjunctiva and sclera, a portion of the operable end having a cross-sectional diameter not greater than 25 gauge; and~~

~~inserting the surgical instrument through the entry apertures into the eye.~~

2. (Currently Amended) The method according to ~~claim 1~~ claim 80, wherein the entry alignment device being provided is sized such that when the entry alignment device is removed from the eye, the entry aperture formed in the conjunctiva and sclera are sealed without the use of sutures.

3. (Currently Amended) The method according to ~~claim 2~~ claim 1, wherein the entry alignment device being provided is sized such that when the entry alignment device is removed from the eye, the entry aperture is self sealing.

4. (Currently Amended) The method according to ~~any of claims 2 or 78-79~~, further comprising the steps of:

providing a surgical instrument having an operable end for insertion through the entry aperture in each of the conjunctiva and sclera, a portion of the operable end having a cross-sectional diameter not greater than 25 gauge; and

inserting the surgical instrument through the entry apertures into the eye.

5. (Currently Amended) The method according to ~~claim 4~~ claim 1, wherein the surgical instrument is selected from the group consisting of a high-speed vitreous cutter, forceps, scissors, pick, light source, laser, fragmentation, diathermy, and aspirator.

6. (Currently Amended) The method according to ~~claim 2~~ claim 1, wherein the entry alignment device is in the form of one of a metal cannula, a polyimide cannula, a wire spreader and a shoe-horn type member.

7. (Original) The method according to claim 1, wherein there are a plurality of entry alignment devices being provided and wherein the step of inserting includes inserting each of the plurality of entry alignment devices so as to form a plurality of entry apertures in the conjunctiva and the sclera.

8. (Original) The method according to claim 7, further comprising the steps of:
providing a surgical instrument having an operable end for insertion through the entry aperture in each of the conjunctiva and sclera, a portion of the operable end having a cross-sectional diameter not greater than 25 gauge; and

inserting the operable end portion of at least one surgical instrument through one of the plurality of entry apertures.

9. (Original) The method according to claim 1, further comprising the steps of:
providing an infusion cannula having an operable end for insertion into the eye, the operable end having a cross-sectional diameter of not more than 25 gauge and being interconnected to an infusion source; and
inserting the cannula operable end through the conjunctiva and sclera.

10. (Original) The method according to claim 9, further comprising the step of sealing the apertures in the conjunctiva and sclera formed by the inserted infusion cannula without the use of sutures.

11. (Original) The method according to claim 1, wherein the step of inserting includes inserting the entry alignment device into the eye so the entry apertures in the conjunctiva and sclera are at an angle with respect to a normal to the eye.

12. (Original) The method according to claim 11, wherein the angle is greater than 45 degrees from the normal.

13. (Previously Presented) The method of claim 55 wherein said step of implementing further includes

inserting a light source through the entry aperture formed by one of the plurality of entry alignment devices and inserting a high speed vitreous cutting/ aspirating instrument in the entry aperture formed by another of the plurality of entry alignment devices; and
removing vitreous gel using the high speed vitreous cutting/ aspirating instrument.

14. (Currently Amended) The method of any of claims 13 or 55, further comprising the steps of:

inserting an operable portion of an infusion cannula through the conjunctiva and the sclera; and

maintaining the intraocular volume by infusing a fluid through the infusion cannula;
infusing a first fluid through the infusion cannula while aspirating vitreous fluid; and
exchanging the infused first fluid with a second fluid following the step of implementing.

15. (Original) The method according to claim 13, wherein the entry alignment device being provided is sized such that when the entry alignment device is removed from the eye, the entry aperture formed in the conjunctiva and sclera are sealed without the use of sutures.

16. (Original) The method according to claim 15, wherein the entry alignment device being provided is sized such that when the entry alignment device is removed from the eye, the entry aperture is self sealing.

17. (Previously Presented) The method according to claim 15, wherein the entry alignment device is in the form of one of a metal cannula, a polyimide cannula, a wire spreader and a shoe-horn type member.

18. (Original) The method according to claim 13, further comprising the steps of:
providing an infusion cannula having an operable end for insertion into the eye, the operable end having a cross-sectional diameter of not more than 25 gauge and being interconnected to an infusion source; and

inserting the infusion cannula operable end through the conjunctiva and sclera.

19. (Original) The method according to claim 18, further comprising the step of sealing the apertures in the conjunctiva and sclera formed by the inserted infusion cannula without the use of sutures.

20. (Original) The method according to claim 13, wherein the step of inserting includes inserting the entry alignment device into the eye so the entry apertures in the conjunctiva and sclera are at an angle with respect to a normal to the eye.

21. (Original) The method according to claim 20, wherein the angle is greater than 45 degrees from the normal.

22. (Previously Presented) The method of claim 14, further comprising the steps of: infusing a first fluid through the infusion cannula while aspirating vitreous fluid; and exchanging the infused first fluid with a second fluid following the step of implementing.

Claims 23 - 41 (Canceled)

42. (Canceled)

43. (Canceled)

44. (Canceled)

45 (Canceled)

46. (Canceled)

47. (Canceled)

48. (Canceled)

49. (Canceled)

50. (Canceled)

51. (Canceled)

52. (Canceled)

53. (Canceled)

54. (Canceled)

55. (Previously Presented) A method for treating a posterior segment of an eye comprising the steps of:

providing a plurality of entry alignment devices, each entry alignment device being configured so as to provide an entry aperture in each of the conjunctiva and sclera of the eye and maintaining the entry aperture in each of the conjunctiva and sclera aligned during the surgical procedure;

inserting each of the plurality of entry alignment devices into the eye, where said inserting is accomplished without pulling back the conjunctiva; and

implementing a corrective procedure for the retina.

Claims 56 - 62 (Canceled)

63. (Previously Presented) The method according to claim 9, wherein said inserting the infusion cannula further includes inserting the infusion cannula operable end one of directly through the conjunctiva and sclera or through the entry aperture in each of the conjunctiva and sclera formed by the entry alignment device.

64. (Previously Presented) The method according to claim 14, wherein said inserting the infusion cannula further includes inserting the infusion cannula operable end one of directly through the conjunctiva and sclera or through the entry aperture in each of the conjunctiva and sclera formed by the entry alignment device.

65. (Previously Presented) The method according to claim 18, wherein said inserting the infusion cannula further includes inserting the infusion cannula operable end one of directly through the conjunctiva and sclera or through the entry aperture in each of the conjunctiva and sclera formed by the entry alignment device.

66. (Canceled)

67. (New) A method for providing access within an eye during an ocular surgical procedure, comprising the steps of:

providing a plurality of entry alignment device, each entry alignment device being configured so as to provide an entry aperture in each of the conjunctiva and sclera of the eye and maintaining the entry aperture in each of the conjunctiva and sclera aligned during the surgical procedure; and

inserting each of the plurality of entry alignment device into the eye so as to form a plurality of the entry apertures in the conjunctiva and sclera where said inserting is accomplished without pulling back the conjunctiva.

68. (New) The method according to claim 67, wherein each of the plurality of entry alignment device being provided is sized such that when the entry alignment device is removed from the eye, the entry aperture formed in the conjunctiva and sclera are sealed without the use of sutures.

69. (New) The method according to claim 67, wherein each of the plurality of entry alignment devices being provided is sized such that when the entry alignment device is removed from the eye, the entry aperture is self sealing.

70. (New) The method according to any of claims 67-69, further comprising the steps of:
providing a surgical instrument having an operable end for insertion through the entry aperture in each of the conjunctiva and sclera, a portion of the operable end having a cross-sectional diameter not greater than 25 gauge; and
inserting the operable end portion of at least one surgical instrument through one of the plurality of entry apertures.

71. (New) The method according to claim 70, wherein the surgical instrument is selected from the group consisting of a high-speed vitreous cutter, forceps, scissors, pick, light source, laser, fragmentation, diathermy, and aspirator.

72. (New) The method according to any of claims 67-69, wherein each of the plurality of entry alignment devices is in the form of one of a metal cannula, a polyimide cannula, a wire spreader and a shoe-horn type member.

73. (New) The method according to any of claims 67-69, further comprising the steps of:
providing an infusion cannula having an operable end for insertion into the eye, the operable end having a cross-sectional diameter of not more than 25 gauge and being interconnected to an infusion source; and
inserting the cannula operable end through the conjunctiva and sclera.

74. (New) The method according to claim 73, further comprising the step of sealing the apertures in the conjunctiva and sclera formed by the inserted infusion cannula without the use of sutures.

75. (New) The method according to any of claims 67-69, wherein the step of inserting includes inserting one or more of the plurality entry alignment devices into the eye so the entry apertures in the conjunctiva and sclera are at an angle with respect to a normal to the eye.

76. (New) The method according to claim 75, wherein the angle is greater than 45 degrees from the normal.

77. (New) The method according to claim 73, wherein said inserting the infusion cannula further includes inserting the infusion cannula operable end one of directly through the conjunctiva and sclera or through the entry aperture in each of the conjunctiva and sclera formed by one of the plurality of entry alignment devices.

78. (New) A method for providing access within an eye during an ocular surgical procedure, comprising the steps of:

providing an entry alignment device that is configured so as to provide an entry aperture in each of the conjunctiva and sclera of the eye and maintaining the entry aperture in each of the conjunctiva and sclera aligned during the surgical procedure; and

inserting the entry alignment device into the eye so as to form the entry apertures, where said inserting is accomplished without pulling back the conjunctiva;

providing an infusion cannula having an operable end for insertion into the eye, the operable end having a cross-sectional diameter of not more than 25 gauge and being interconnected to an infusion source; and

inserting the cannula operable end through the conjunctiva and sclera.

79. (New) The method according to claim 78, wherein the entry alignment device being provided is sized such that when the entry alignment device is removed from the eye, the entry aperture is self sealing.

80. (New) The method according to any of claims 2 or 78-79, further comprising the steps of:

providing a surgical instrument having an operable end for insertion through the entry aperture in each of the conjunctiva and sclera, a portion of the operable end having a cross-sectional diameter not greater than 25 gauge; and

inserting the surgical instrument through the entry apertures into the eye.

81. (New) The method according to any of claims 2 and 78-79, wherein the surgical instrument is selected from the group consisting of a high-speed vitreous cutter, forceps, scissors, pick, light source, laser, fragmentation, diathermy, and aspirator.

82. (New) The method according to any of claims 2 or 78-79, wherein the entry alignment device is in the form of one of a metal cannula, a polyimide cannula, a wire spreader and a shoe-horn type member.

83. (New) The method according to any of claims 2 or 78-79, wherein there are a plurality of entry alignment devices being provided and wherein the step of inserting includes inserting each of the plurality of entry alignment devices so as to form a plurality of entry apertures in the conjunctiva and the sclera.

84. (New) The method according to claim 83, further comprising the steps of:
providing a surgical instrument having an operable end for insertion through the entry aperture in each of the conjunctiva and sclera, a portion of the operable end having a cross-sectional diameter not greater than 25 gauge; and
inserting the operable end portion of at least one surgical instrument through one of the plurality of entry apertures.

85. (New) The method according to any of claims 2 or 78-79, further comprising the step of sealing the apertures in the conjunctiva and sclera formed by the inserted infusion cannula without the use of sutures.

86. (New) The method according to any of claims 2 or 78-79; wherein the step of inserting includes inserting the entry alignment device into the eye so the entry apertures in the conjunctiva and sclera are at an angle with respect to a normal to the eye.

87. (New) The method according to claim 86, wherein the angle is greater than 45 degrees from the normal.

88. (New) The method according to any of claims 2 or 78-79, wherein said inserting the infusion cannula further includes inserting the infusion cannula operable end one of directly through the conjunctiva and sclera or through the entry aperture in each of the conjunctiva and sclera formed by the entry alignment device.